

Prevention of Smallpox in Alta California During the Franciscan Mission Period (1769-1833)

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SMALLPOX WAS INTRODUCED into New Spain shortly after the conquest. In 1522, one of the men who accompanied Panfilo Narvaez from Cuba, where an epidemic was raging, brought the disease to Mexico with disastrous results. Graphic descriptions of this epidemic are found in Father Toribio de Motolinia's *Historia de los Indios de Nueva España*¹ and Father Bernardino de Sahagun's *Historia General de las Cosas de Nueva España*.² From that time forward smallpox epidemics broke out periodically with varying degree of severity, and this disease was a major factor in the decimation of the Indian population of Baja California.³

But while authors such as James O. Pattie,⁴ Sherbourne F. Cook,⁵ Henry Harris⁶ and others refer to the devastating effects of smallpox on the Alta California Indians, investigation of the original mission records reveals no evidence that any epidemic of the disease occurred during the Franciscan Mission Period. Doubtless the relative isolation of the area contributed to this escape, at least during the first few decades of the period, but

a factor of much greater importance was the preventive measures taken by the Spanish and Mexican governments and the missionaries. These measures were the early use of quarantine, isolation and immunization by variolation and vaccination to prevent the introduction and spread of the disease.

What was probably the first smallpox scare was dealt with by quarantine and isolation. It occurred in August of 1781 when a group of soldiers and colonists arrived near Mission San Gabriel Arcángel from Baja California where an epidemic was in progress.⁸ Governor Felipe de Neve, in a letter to the Comandante General de las Provincias Internas dated October 29, 1781, states that the new arrivals had been placed under quarantine at some distance from the mission because several of the children were convalescing from smallpox.⁹

A further effort to control smallpox was a Royal Cedula, issued by King Charles III of Spain, which ordered that the book *Disertacion Fisico-Medica en la cual se Prescribe un Metodo Seguro para Preservar a los Pueblos de Viruelas hasta Lograr la Completa Extincion de Ellas en Todo el Reyno*¹⁰ be distributed throughout the Spanish possessions in the New World. This book was written by Don

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Francisco Gil, Surgeon of the Royal Monastery of San Lorenzo and member of the Royal Academy of Medicine of Madrid. Don Josef de Galvez, Marques of Sonora, transmitted this order to New Spain along with 150 copies of the book.¹¹ On September 15, 1786 Brigadier Jacobo Ugarte y Loyola, military governor of New Spain, sent a letter to Governor Pedro Fages of California stating that he was forwarding a copy of the Royal Cedula and 20 copies of the book.¹² These were to be distributed in both Baja and Alta California and while it is not known how many copies were actually received at the missions, there is a well-thumbed copy of the book in the Santa Barbara Mission Archives. Gil's book does not denigrate the effectiveness of inoculation, but emphasizes the importance of quarantine and isolation in the control of smallpox, giving much attention to the supportive measures to be used in the treatment of those who are stricken with the disease. It is mentioned in the foreword of the book that the methods described by the author had been used with good result in combatting a smallpox epidemic at New Orleans on the Mississippi River.

On February 28, 1797, as a result of the outbreak of smallpox in Mexico and Guatemala, Don Miguel de la Grúa y Branchiforte, Viceroy of New Spain, issued an edict containing thirteen sections of instructions on how to prevent and deal with a smallpox epidemic.¹³ For the most part it is a summary of the methods proposed by Dr. Gil in his "Disertacion" which the Viceroy had ordered reprinted in Mexico in 1796. Section eight of this instruction specifically mentions inoculation.

When the latter (smallpox) becomes widespread, because of the inability to stop it at the beginning by the appropriate methods indicated, it will be advisable to put inoculation into practice, pointing out to those concerned, in order that they may adopt it voluntarily, its advantages and the great success obtained in Oajaca, Tehautepec and other cities, where the results have been exceedingly favorable to mankind.

Governor Diego de Borica acknowledged receipt of these instructions on July 20, 1797, and stated that he was transmitting them to his company commanders.¹⁴ On April 15, 1798, Lt. Jose Arguello, commander of the Presidio of San Francisco, wrote to Governor Borica that he had received and duly noted the Viceroy's edict regarding smallpox.¹⁵

The second smallpox threat to Alta California occurred early in May of 1798 when the "Concepcion," the regular ship from San Blas, arrived in Santa Barbara harbor with several persons who had smallpox. The passengers were quarantined on the ship from May 3 to May 16, and while this period evidently was sufficient to prevent the introduction of the disease, Governor Borica thought it should have been prolonged.¹⁶ In accordance with Viceroy Branchiforte's instructions, he notified the Presidio commanders and Father Fermin Francisco Lasuen,¹⁷ the president of the missions, of the incident and advised inoculation.¹⁸

A direct result of this episode was the circulation through Alta California of an instruction on how to perform inoculations. It was written by Dr. Pablo Soler, the military surgeon at Monterey and the only physician in the province at the time, and endorsed by Governor Borica. Copies of this instruction are found in the Santa Barbara Mission Archives and the archives of Mission Santa Clara de Asís. Because of its rarity and explicitness about the method to be employed, the complete document is presented in translation.

Method of performing inoculations against smallpox by which simple operation experience in New Spain has shown numerous fatalities are avoided.

Wet the point of a lancet or similar instrument with smallpox pus; introduce the lancet thus anointed beneath the skin in the web between the index finger and the thumb, so superficially that hardly any blood appears; then place the finger on top of the wound when removing the lancet so that the pus will remain. Do not apply a bandage until the blood has dried.

The food should be light and strengthening, such as *atole* of barley, corn, etc.; drink the same, such as water of lettuce or maiden hair; and rest. Do not give medicine or other restoratives.

All ages can be inoculated even if they suffer from the itch or some similar disease. Above all, cleanliness, fresh air and well-being are recommended in addition to all that indicated in smallpox which occurs naturally.

I do not doubt that the reverend missionaries will secure this blessing for the neophytes in view of the havoc wrought among the Christian Indians as well as the non-Christian savages in Baja California in 1781. Fortunately, San Fernando and San Borja escaped the contagion because of the inoculations which were carried out by Father Crisostomo Gomez with the usual happy results.

We would wish that this blessing will reach the poor non-Christian Indians through their

relatives, for these writings are directed to the good of Humanity.

Monterey, 17th May 1798 (Signed) PABLO SOLER
For the Reverend Missionaries of San Carlos
(Signed) BORICA

There can be no doubt that this instruction was prepared for use by the missionaries or that they actually performed inoculations.

On May 25, 1798, Captain Jose Arguello of the Presidio of San Francisco, wrote to Governor Borica that he had received his letter and the *Metodo para Practicar la Ynoculacion* and that he was sending copies to his troop commanders and Missions San Francisco de Asís, San Jose and Santa Clara de Asís, so that it could be put into practice. He further stated that if the disease broke out, he would have his family inoculated as an example to others.¹⁹

Finally, on September 4, 1798, Governor Borica wrote to Viceroy Jose Miguel de Azanza that smallpox had not been introduced into the province of Alta California at this time.²⁰

Early in 1804, there was a flurry of interest in

New Spain in vaccination against smallpox when Dr. Alejandro Arbolea of the Royal Spanish Navy arrived with some vials of vaccine matter and successfully vaccinated a number of orphans in Mexico City. In April, 1804, the *Gazeta de Mexico* which was widely distributed in both Baja and Alta California published a two-part supplement about the procedure.²¹ It states that if directions are followed carefully, anyone can vaccinate. The vaccine matter should be introduced beneath the skin by a lancet, knife or needle and the preferred site is the anterior surface of the upper arms. As can be seen in Figure 1, the illustration which accompanied the article, multiple vaccinations were performed on each subject.

Despite this earlier vaccination campaign, probably the most famous of all efforts to eliminate the scourge of smallpox in the Spanish possessions was the expedition of Dr. Francisco Xavier de Balmis. This vaccine expedition was undertaken at the instigation of Dr. Josef Ignacio Flores who had been born in the New World but who was serving as one of the court physicians in Spain in 1803.²² The purpose of the expedition was to introduce vaccination into the Spanish overseas possessions, and it departed Spain on November 30, 1803, and arrived at Vera Cruz, Mexico on October 27, 1804, after stops at ports in the Canary Islands and northern South America.

On November 27, 1804, the Bishop of Sonora, Francisco Rousset de Jesus, who had jurisdiction over the California missions, wrote to Father Estevan Tapis, the president of the missions, announcing the visit of Dr. Balmis and instructing the missionaries as follows:

Since it is in accord with our obligations to cooperate efficiently, to put into practice and to make effective the sovereign will of the King by aiding and assisting as much as possible, the individuals and doctors who compose the charitable expedition already mentioned, I charge you that you shall send this communication to all the missions in your jurisdiction for execution of its requirements and that you retain the original in your archives and that you notify our private secretary of your compliance.²³

For some unexplained reason, no member of the Balmis expedition visited California, but this letter no doubt served to focus attention on the problem of smallpox and its control.

The next mention of smallpox comes from Dr. Georg H. Langsdorff, the German-trained physician who accompanied Russia's Resanov Expedi-

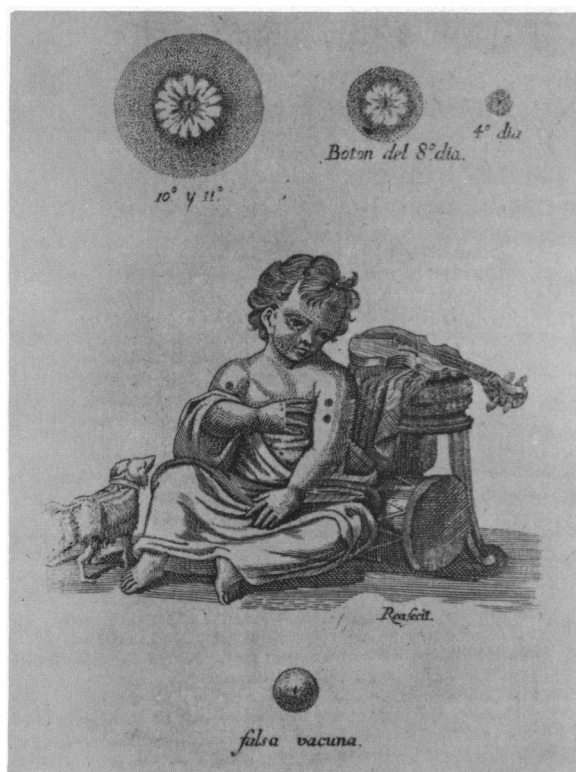


Figure 1.—At top is the type of lancet in use at the time. Also shown is the appearance of the pustules at 4, 8, and 10 and 11 days after vaccination. Subject has received multiple vaccinations. At the bottom is appearance of false vaccination.

Gazeta de Mexico, April 1804—Courtesy of Bancroft Library

tion to California in 1806. He mentions in his report of this visit that Governor Jose Joaquin Arrillaga had told him that vaccination had been used in California for many years. He further states that he was told that cowpox had been present in the cattle in the area south of Monterey for a long time and that it had been used for the successful immunization of many people. In fact, the inhabitants had so forgotten the dangers of smallpox that, as a consequence, they had become negligent about being immunized.²⁴ This statement suggests the possibility that vaccinations were performed in California as early as in the eastern United States, if not earlier.

In January, 1810, the Spanish government authorized Dr. Francisco X. de Balmis to return to New Spain on a second vaccination expedition.²⁵ After his arrival in Mexico, he issued a broadside, *Reglamento de Orden de S. M. para que se Propague y Perpetue La Vacuna en Nueva España*, a copy of which is found in the archives of Mission Santa Clara de Asís. This is dated October 10, 1810, and concerns the methods to be used for the preservation of the vaccine and for setting up vaccination stations. He remarks herein that although vaccine matter preserved in sealed vials of glass or wax, scabs, or pus dried on threads, splinters or quills had all been used for vaccination, the best results were obtained by arm to arm transfer of the pus.²⁶ Balmis, in his *Tratado Historico y Practico de la Vacuna* which was widely distributed in Spain and her possessions, makes the usual statement that vaccination can be performed by anyone. He also points out that while four vaccinations on a subject are sufficient, 10, 12 and even more have been performed without untoward effect.²⁷

Activity regarding vaccination seems then to have subsided for a time—or at least it is not mentioned in the available records until 1817. At this time, according to Hubert H. Bancroft, Jose Verdia²⁸ brought some vaccine matter to Monterey. No additional information on this point could be found, however.

In 1821, the Russian ship "Kutusoff" landed at Monterey with vaccine lymph which had been obtained in Lima, Peru. Approximately 90 children were vaccinated with this material, but on September 13, 1821, Governor Pablo Vicente Sola writes that the procedure had been a failure because the vaccine matter had lost its effectiveness.²⁹

Evidently procurement of effective vaccine mat-

ter was a great problem in Mexico and California. On August 27, 1823, Lucas Ignacio Alaman, the Mexican Secretary of State, wrote to the governor of California as follows:

The supreme executive power has directed his attention to the conservation and propagation of the vaccine fluid, noting with considerable anxiety that a preventative so efficacious against epidemics of smallpox has almost disappeared from our midst. The Municipal Councils, Provincial Deputations and local functionaries are responsible for the public health. These authorities are charged with the encouragement of the propagation of so precious a fluid. Therefore, in order that the inhabitants may guard against this plague, His Highness desires that you proceed at once, in conjunction with the Provincial Deputation and the Board of Health, to obtain vaccine from the nearest source. We have been advised that it may be preserved by transporting it in thin gut or glass containers. If such means do not suffice, then vaccinated children should be sent from one place to another at the expense of the respective municipalities . . . ³⁰

There is no evidence that these recommendations were ever carried out in California, perhaps because a vaccine source existed in cattle in the Monterey area. However, it is interesting to note that arm to arm transfer from child to child was still considered the best method for preserving and transporting the vaccine matter.

The next statement regarding smallpox in Alta California is that of James Ohio Pattie, a fur trader and prospector who arrived on the Pacific coast in 1828. He states in his "Personal Narrative" that an epidemic of smallpox broke out in 1828 and caused many deaths.⁴ Investigation of the original mission records and an epidemiological study of the 1827-28 epidemic reveal that it was due to measles and not to smallpox, and that none of Pattie's statements correspond to the extensive contemporary evidence.³¹ Pattie also mentions that he vaccinated 22,000 persons against the disease³² but scrutiny of this assertion and comparison with the records shows that he claims to have vaccinated 6,000 more persons than were actually present in the 14 missions he is supposed to have visited.³¹ In fact, search of the original mission records fails to reveal any evidence of Pattie's tour,³¹ a fact also noted by Bancroft in his *History of California*.³³

Bancroft mentions that the Russians again brought smallpox vaccine to San Diego and Monterey in 1829.³⁴ At this time William A. Richardson was hired to vaccinate in the missions and thus earned his nickname "Doc."³⁵

Governor Manuel Victoria mentions in a report to Mexico dated June 7, 1831, that vaccinations were being and had long been carried out by amateurs because there were no professionals to perform them and that smallpox was unknown in Alta California.³⁶

The reports of two foreign visitors are worthy of note because they attest the absence of smallpox in Alta California. Captain Frederick W. Beechey who sailed up and down the California coast in the English ship "Blossom" during the years 1826 through 1828 mentions in his *Account of a Visit to California* that it was obvious there had been no smallpox in Alta California for many years.³⁷ Auguste Bernard du Haut-Cilly, Captain of the French ship "Le Héros," who visited many of the missions, states in his *Voyage autour du Monde, 1826-1829* that it was apparent that the Alta California natives had escaped the ravages of smallpox.³⁸

Further, Father Zephyrin Engelhardt who devoted a lifetime to the study of the missions, states in his *Missions and Missionaries* that the precautions taken by the government and the missionaries seemed to have prevented the spread of epidemics other than measles and fevers, and that there is no record of smallpox having occurred before 1838.³⁹

From a perusal of the foregoing it becomes apparent that there were no smallpox epidemics in Alta California during the Franciscan Mission Period (1769-1833) and there can be no doubt about the concern of the government and the clergy for the prevention of this disease. Their achievement in this respect was remarkable, especially in view of the terrible havoc caused by smallpox in many other parts of the world.

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